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EXAMINER

MCLEAN, NEIL R

ART UNIT

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2625

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/675,713	Applicant(s) WANG ET AL.	
	Examiner Neil R. McLean	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-8,10-15,17-22 and 24-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-8, 10-15, 17-22, and 24-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Claims 1, 3-8, 10-15, 17-22, and 24-28 are pending in this application.
Claims 2, 9, 16, and 23 have been canceled.
Independent Claims 1, 8, 15, and 22 have been amended.
No new claims have been added.

Response to Arguments

2. Applicant's arguments, see Page 8, line 29 – Page 9, line 3, filed 10/01/2008 with respect to the rejection(s) of claims 1, 3-8, 10-15, 17-22, and 24-28 have been fully considered and are persuasive. However, upon further consideration, a new ground(s) of rejection is made in further view of Barnard et al. (US 2003/0005097) hereafter 'Bernard'.
3. Regarding Applicant's Amendment:
"The subject application teaches a solution for a particular problem associated with downloading printer drivers from a print server. That is, in a typical installation, the driver defaults to a particular queue, such as \\PrinterServerName\SharedDriveName... Kim does not contemplate a condition **wherein a downloaded printer driver maps automatically to a queue, not to a port**. Prior to amendment, the subject claims did not affirmatively claim the interaction between the downloaded print driver, the default

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queue, and the mapping of a port to facilitate bidirectional data communication to allow for passing of status information back to a workstation."

Examiners Response:

Lozano and Kim do not disclose wherein the loaded print driver maps print output to a default print queue.

Bernard discloses **wherein a downloaded printer driver maps automatically to a queue, not to a port.**

[0063] FIG. 11 depicts a process for configuring a client workstation **to utilize a print queue corresponding to one of the network printers**, such as printer 18.

[0064] In step S1102, network management device 20 receives the selection from the available print queues made by the user at workstation 12. Network management device 20 then searches print drivers 60 for the appropriate **print driver associated with the selected print queue**. In step S1104, Network management device 20 configures the client workstation by sending and installing the appropriate print driver from print drivers 60 on workstation 12 via network 10. Once the print driver is installed on workstation 12, in step S1105 network management device 20 establishes a connection between workstation 12 and print server 77, thereby allowing print jobs to be sent from workstation 12 to the selected print queue.

Lozano, Kim and Bernard are combinable because they are from the same field of endeavor of image processing; e.g., all three references disclose methods of connecting computers to peripherals such as printers by means of driver software.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the loaded print driver map the print output to a default print queue. The suggestion/motivation for doing so as disclosed by Bernard in the Summary of invention is because in a large enterprise, such as a large, physically distributed company with large numbers of printers, the system administrative tasks

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related to network printers can be overwhelming. In addition to the network administration tasks associated with the printers, other network problems can arise in relation to the printers. For example, a large number of printers on the network can generate a significant amount of network traffic between the print servers and the printers. Network traffic can also be generated during network administration of the printers if a network management tool is utilized which continuously polls for the presence of the printers and which obtains configuration and capability information from the printers. Such large amounts of network traffic can detract from the other communication between workstations, servers, and other network devices. Furthermore, a large number of printers in a network environment can consume a large number of corresponding IP addresses which may limit the total number of IP addresses available on the network for other devices.

Therefore, it would have been obvious to combine Kim's method of setting a port with Lozano's system of installing printers with Bernard's network management tool to obtain the invention as specified in order to provide additional printer support functionality in a network environment.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3-8, 10-15, 17-22, and 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lozano et al. (US 2004/0030809) in view of Kim (US 2003/0128386) and further view of Barnard et al. (US 2003/0005097) hereafter 'Bernard'.

Regarding Claim 1: (Currently Amended)

Lozano et al. teaches a method for a printer driver ([0038], line 10) on a client machine ([0037], line 3) to communicate with a network printer ([0051], line 9) communicatively coupled to a print server ([0051], line 11), comprising the steps of:

loading a shared printer driver from an associated to a client machine ([0050], see program step 700);

searching a computer network (program step 200 in Figure 1) for at least one network accessible printer corresponding to the loaded printer driver, which network accessible printer is accessible by the client machine ([0042], lines 1-3) via data connection between the printer and an associated server ([0051], lines 4-17);

selecting at least one accessible printer located by an associated user ([0042], lines 3-7 and step 108 in Figure 1);

retrieving identifier data associated with each selected printer ([0052], lines 1-8);

retrieving a network address, corresponding to the at least one accessible printer selected by the user ([0051], lines 1-4 and step 200 in Figure 1);

storing ([0035]) the network address, corresponding identifier data and a network path corresponding to the at least one selected accessible printer in an internal value table ([0046]) of the client machine ([0052], lines 1-4 and 202 in Figure 2); and mapping a port in accordance with the value table (e.g., server based database described in [0080], lines 7-8;), wherein the printer driver of the client machine is able to pass through an actual port associated therewith for bidirectional data communication ([0006], lines 8-9) with the at least one selected accessible printer via the data connection ([0044], lines 1-9 and step 300 in Figure 1 and [0051], lines 4-17).

Lozano et al. does not disclose wherein a print driver is obtained and loaded from a print server to a client machine and mapping a port from the at least one selected network accessible printer to a port on a printer driver on the client machine.

Kim discloses wherein a print driver is obtained and loaded from a print server to a client machine and mapping a port from the at least one selected network accessible printer to a port on a printer driver on the client machine.

FIG. 2 is a block diagram illustrating a peripheral device driver to carry out the method of setting a port, and illustrates a peripheral device driver 40 to carry out the method of setting a port, which is described with reference to FIG. 1, and comprises a host 30 and a peripheral device 32.

The peripheral device driver 40 may be built in the host 30 and serves to drive the peripheral device 32. As described above, in a case where the method of setting a port is carried out in the peripheral device driver 40, the peripheral device driver 40 can carry out the method of setting the port when it monitors or drives the peripheral device 32 as described in [0026].

If it is determined that the port to interlink the host 30 with the peripheral device 32 exists in operation 12, operation 14 may be skipped and operation 16 may be carried out. In this case, the method of setting a port described with reference to FIG. 1 does not perform operation 14, and the method of processing a job does not

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perform operation 20. In other words, if it is determined that the port to physically interlink the host 30 with the peripheral device 32 exists in operation 12, the basic port is switched over to the port to physically interlink the host 30 with the peripheral device 32 in operation 16. Finally, the peripheral device driver 40 which exists in the host 30 checks all ports to search for any ports to physically interlink the host 30 with the peripheral device 32 if it is determined that the host 30 is not interlinked with the peripheral device 32 through the basic port. Here, if an interlinked port to physically interlink the host 30 with the peripheral device 32 exists, the basic port is automatically switched over to the interlinked port as described in [0031].

Lozano et al. & Kim are combinable because they are from the same field of endeavor of image processing; e.g., both references disclose methods of connecting computers to peripherals such as printers by means of driver software.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to map a port from the at least one selected accessible printer to a port on a printer driver on the client machine.

The suggestion/motivation for doing so would have been so that the user does not have to manually search and connect a port before transmitting the print data to the printer. The basic port can be switched over to the interlinked port automatically or by a user's permission, or without a user's permission. The user does not need to physically, or through a program, change the basic port.

Therefore, it would have been obvious to combine Kim's method of setting a port with Lozano's system of installing printers to obtain the invention as specified in Claim 1 because the user can conveniently change the basic port into another port, and even users with little knowledge of changing of the basic port can also switch another port without errors. Further, burdensome and unnecessary after-sale services related to the

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changes of ports for makers of peripheral devices and hosts can be avoided as disclosed by Kim in [0006].

Lozano and Kim do not disclose wherein the loaded print driver maps print output to a default print queue.

Bernard discloses **wherein a downloaded printer driver maps automatically to a queue, not to a port.**

[0063] FIG. 11 depicts a process for configuring a client workstation **to utilize a print queue corresponding to one of the network printers**, such as printer 18.

[0064] In step S1102, network management device 20 receives the selection from the available print queues made by the user at workstation 12. Network management device 20 then searches print drivers 60 for the appropriate **print driver associated with the selected print queue**. In step S1104, Network management device 20 configures the client workstation by sending and installing the appropriate print driver from print drivers 60 on workstation 12 via network 10. Once the print driver is installed on workstation 12, in step S1105 network management device 20 establishes a connection between workstation 12 and print server 77, thereby allowing print jobs to be sent from workstation 12 to the selected print queue.

Lozano, Kim and Bernard are combinable because they are from the same field of endeavor of image processing; e.g., all three references disclose methods of connecting computers to peripherals such as printers by means of driver software.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the loaded print driver map the print output to a default print queue. The suggestion/motivation for doing so as disclosed by Bernard in the Summary of invention is because in a large enterprise, such as a large, physically distributed company with large numbers of printers, the system administrative tasks related to network printers can be overwhelming. In addition to the network

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administration tasks associated with the printers, other network problems can arise in relation to the printers. For example, a large number of printers on the network can generate a significant amount of network traffic between the print servers and the printers. Network traffic can also be generated during network administration of the printers if a network management tool is utilized which continuously polls for the presence of the printers and which obtains configuration and capability information from the printers. Such large amounts of network traffic can detract from the other communication between workstations, servers, and other network devices. Furthermore, a large number of printers in a network environment can consume a large number of corresponding IP addresses which may limit the total number of IP addresses available on the network for other devices.

Therefore, it would have been obvious to combine Kim's method of setting a port with Lozano's system of installing printers with Bernard's network management tool to obtain the invention as specified in order to provide additional printer support functionality as needed in accordance with a particular network environment.

Regarding Claim 2: (Cancelled)

Regarding Claim 3: (Original)

The method of claim 1 further comprising the step of exporting a function to the printer driver ([0042], lines 3-7).

Regarding Claim 4: (Original)

The method of claim 1, wherein the network address is an Internet Protocol address ([0059], lines 1-9).

Regarding Claim 5: (Original)

The method of claim 1, wherein the network address is a proprietary network protocol address ([0067], lines 1-18).

Regarding Claim 6: (Previously Presented)

The method of 5, wherein the proprietary network protocol is an Internet Packet Exchange protocol ([0067], lines 1-18).

Regarding Claim 7: (Previously Presented)

The method of claim 1, wherein the storing step further comprises storing an associated port name corresponding to the at least one selected accessible printer in an internal value table of the client machine ([0052], lines 1-3).

Regarding Claim 8: (Currently Amended)

Lozano et al. teaches a system for a printer driver ([0038], line 10) on a client machine ([0037], line 3) to communicate with a network printer ([0051], line 9) communicatively coupled to a print server ([0051], line 11), comprising:

means (the software code of the browser program that is described in [0042], lines 1-3) adapted for searching a computer network for at least one network accessible printer (program step 200 in Figure 1) corresponding to the loaded printer driver, which network accessible printer is accessible by the client machine via a data connection between the printer and an associated server ([0051], lines 4-17);

means (the software code of the browser program that is described in [0042], lines 3-7) adapted for selecting at least one accessible printer corresponding to the loaded printer driver, which network accessible printer is located by an associated user (step 108 in Figure 1);

means adapted for retrieving identifier data associated with each selected printer ([0052], lines 1-8);

means (the software code of the browser program that is described in [0051], lines 1-4) adapted for retrieving a network address corresponding to the at least one accessible printer selected by the user user (step 200 in Figure 1);

means (the software code of the browser program that is described in [0052], lines 1-4) adapted for storing ([0035]) the network address, corresponding identifier data and a network path corresponding to the at least one selected accessible printer in an internal value table ([0046]) of the client machine (202 in Figure 2); and

means (the software code of the browser program that is described in [0044], lines 1-9; and [0051], lines 4-17) adapted for mapping a port in accordance with the value table (e.g., server based database described in [0080], lines 7-8), wherein the printer driver of the client machine is able to pass through an actual port associated

therewith for bidirectional data communication ([0006], lines 8-9) with the at least one selected accessible printer via the data connection (step 300 in Figure 1).

Lozano et al. does not disclose wherein a print driver is obtained and loaded from a print server to a client machine and mapping a port from the at least one selected network accessible printer to a port on a printer driver on the client machine.

Kim discloses wherein a print driver is obtained and loaded from a print server to a client machine and mapping a port from the at least one selected network accessible printer to a port on a printer driver on the client machine.

FIG. 2 is a block diagram illustrating a peripheral device driver to carry out the method of setting a port, and illustrates a peripheral device driver 40 to carry out the method of setting a port, which is described with reference to FIG. 1, and comprises a host 30 and a peripheral device 32.

The peripheral device driver 40 may be built in the host 30 and serves to drive the peripheral device 32. As described above, in a case where the method of setting a port is carried out in the peripheral device driver 40, the peripheral device driver 40 can carry out the method of setting the port when it monitors or drives the peripheral device 32 as described in [0026].

If it is determined that the port to interlink the host 30 with the peripheral device 32 exists in operation 12, operation 14 may be skipped and operation 16 may be carried out. In this case, the method of setting a port described with reference to FIG. 1 does not perform operation 14, and the method of processing a job does not perform operation 20. In other words, if it is determined that the port to physically interlink the host 30 with the peripheral device 32 exists in operation 12, the basic port is switched over to the port to physically interlink the host 30 with the peripheral device 32 in operation 16. Finally, the peripheral device driver 40 which exists in the host 30 checks all ports to search for any ports to physically interlink the host 30 with the peripheral device 32 if it is determined that the host 30 is not interlinked with the peripheral device 32 through the basic port. Here, if an interlinked port to physically interlink the host 30 with the peripheral device 32 exists, the basic port is automatically switched over to the interlinked port as described in [0031].

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Lozano et al. & Kim are combinable because they are from the same field of endeavor of image processing; e.g., both references disclose methods of connecting computers to peripherals such as printers by means of driver software.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to map a port from the at least one selected accessible printer to a port on a printer driver on the client machine.

The suggestion/motivation for doing so would have been so that the user does not have to manually search and connect a port before transmitting the print data to the printer. The basic port can be switched over to the interlinked port automatically or by a user's permission, or without a user's permission. The user does not need to physically, or through a program, change the basic port.

Therefore, it would have been obvious to combine Kim's method of setting a port with Lozano's system of installing printers to obtain the invention as specified in Claim 8 because the user can conveniently change the basic port into another port, and even users with little knowledge of changing of the basic port can also switch another port without errors. Further, burdensome and unnecessary after-sale services related to the changes of ports for makers of peripheral devices and hosts can be avoided as disclosed by Kim in [0006].

Lozano and Kim do not disclose wherein the loaded print driver maps print output to a default print queue.

Bernard discloses **wherein a downloaded printer driver maps automatically to a queue, not to a port.**

[0063] FIG. 11 depicts a process for configuring a client workstation **to utilize a print queue corresponding to one of the network printers**, such as printer 18.

[0064] In step S1102, network management device 20 receives the selection from the available print queues made by the user at workstation 12. Network management device 20 then searches print drivers 60 for the appropriate **print driver associated with the selected print queue**. In step S1104, Network management device 20 configures the client workstation by sending and installing the appropriate print driver from print drivers 60 on workstation 12 via network 10. Once the print driver is installed on workstation 12, in step S1105 network management device 20 establishes a connection between workstation 12 and print server 77, thereby allowing print jobs to be sent from workstation 12 to the selected print queue.

Lozano, Kim and Bernard are combinable because they are from the same field of endeavor of image processing; e.g., all three references disclose methods of connecting computers to peripherals such as printers by means of driver software.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the loaded print driver map the print output to a default print queue. The suggestion/motivation for doing so as disclosed by Bernard in the Summary of invention is because in a large enterprise, such as a large, physically distributed company with large numbers of printers, the system administrative tasks related to network printers can be overwhelming. In addition to the network administration tasks associated with the printers, other network problems can arise in relation to the printers. For example, a large number of printers on the network can generate a significant amount of network traffic between the print servers and the printers. Network traffic can also be generated during network administration of the printers if a network management tool is utilized which continuously polls for the

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presence of the printers and which obtains configuration and capability information from the printers. Such large amounts of network traffic can detract from the other communication between workstations, servers, and other network devices.

Furthermore, a large number of printers in a network environment can consume a large number of corresponding IP addresses which may limit the total number of IP addresses available on the network for other devices.

Therefore, it would have been obvious to combine Kim's method of setting a port with Lozano's system of installing printers with Bernard's network management tool to obtain the invention as specified in order to provide additional printer support functionality as needed in accordance with a particular network environment.

Regarding Claim 9: (Cancelled)

Regarding Claim 10: (Original)

The system of claim 8, further comprising means adapted for exporting a function to the printer driver ([0042], lines 3-7).

Regarding Claim 11: (Original)

The system of claim 8, wherein the network address is an Internet Protocol address ([0059], lines 1-9).

Regarding Claim 12: (Original)

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The system of claim 8, wherein the network address is a proprietary network protocol address ([0067], lines 1-18).

Regarding Claim 13: (Previously Presented)

The system of 12, wherein the proprietary network protocol is an Internet Packet Exchange protocol ([0067], lines 1-18).

Regarding Claim 14: (Previously Presented)

The system of claim 8, further comprising means adapted for storing an associated port name corresponding to the at least one selected accessible printer in an internal value table of the client machine ([0052], lines 1-3).

Regarding Claim 15: (Currently Amended)

A computer-implemented for a printer driver ([0038], line 10) on a client machine ([0037], line 3) to communicate with a network printer ([0051], line 9) communicatively coupled to a print server ([0051], line 11), comprising the steps of:

searching a computer network (program step 200 in Figure 1) for at least one printer accessible by the client machine ([0042], lines 1-3) via a connection through an associated server ([0051], lines 4-17);

selecting at least one accessible printer located by an associated user;

retrieving identifier data associated with each selected printer ([0052], lines 1-8);

retrieving a network address corresponding to at least one accessible printer selected by a user ([0051], lines 1-4 and step 200 in Figure 1);

storing ([0035]) the network address, corresponding identifier data and a network path corresponding to the at least one selected accessible printer in an internal value table ([0046]) of the client machine ([0052], lines 1-4 and 202 in Figure 2); and

mapping a port in accordance with the value table (e.g., server based database described in [0080], lines 7-8), wherein the printer driver of the client machine is able to pass through an actual port associated therewith for bidirectional data communication ([0006], lines 8-9) with the at least one selected accessible printer ([0044], lines 1-9 and step 300 in Figure 1 and [0051], lines 4-17).

Lozano et al. does not disclose wherein a print driver is obtained and loaded from a print server to a client machine and mapping a port from the at least one selected network accessible printer to a port on a printer driver on the client machine.

Kim discloses wherein a print driver is obtained and loaded from a print server to a client machine and mapping a port from the at least one selected network accessible printer to a port on a printer driver on the client machine.

FIG. 2 is a block diagram illustrating a peripheral device driver to carry out the method of setting a port, and illustrates a peripheral device driver 40 to carry out the method of setting a port, which is described with reference to FIG. 1, and comprises a host 30 and a peripheral device 32.

The peripheral device driver 40 may be built in the host 30 and serves to drive the peripheral device 32. As described above, in a case where the method of setting a port is carried out in the peripheral device driver 40, the peripheral device driver 40 can carry out the method of setting the port when it monitors or drives the peripheral device 32 as described in [0026].

If it is determined that the port to interlink the host 30 with the peripheral device 32 exists in operation 12, operation 14 may be skipped and operation 16 may be carried out. In this case, the method of setting a port described with reference to FIG. 1 does not perform operation 14, and the method of processing a job does not perform operation 20. In other words, if it is determined that the port to physically interlink the host 30 with the peripheral device 32 exists in operation 12, the basic port is switched over to the port to physically interlink the host 30 with the peripheral device 32 in operation 16. Finally, the peripheral device driver 40 which exists in the host 30 checks all ports to search for any ports to physically interlink the host 30 with the peripheral device 32 if it is determined that the host 30 is not interlinked with the peripheral device 32 through the basic port. Here, if an interlinked port to physically interlink the host 30 with the peripheral device 32 exists, the basic port is automatically switched over to the interlinked port as described in [0031].

Lozano et al. & Kim are combinable because they are from the same field of endeavor of image processing; e.g., both references disclose methods of connecting computers to peripherals such as printers by means of driver software.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to map a port from the at least one selected accessible printer to a port on a printer driver on the client machine.

The suggestion/motivation for doing so would have been so that the user does not have to manually search and connect a port before transmitting the print data to the printer. The basic port can be switched over to the interlinked port automatically or by a user's permission, or without a user's permission. The user does not need to physically, or through a program, change the basic port.

Therefore, it would have been obvious to combine Kim's method of setting a port with Lozano's system of installing printers to obtain the invention as specified in Claim 15 because the user can conveniently change the basic port into another port, and even users with little knowledge of changing of the basic port can also switch another port

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without errors. Further, burdensome and unnecessary after-sale services related to the changes of ports for makers of peripheral devices and hosts can be avoided as disclosed by Kim in [0006].

Lozano and Kim do not disclose wherein the loaded print driver maps print output to a default print queue.

Bernard discloses **wherein a downloaded printer driver maps automatically to a queue, not to a port.**

[0063] FIG. 11 depicts a process for configuring a client workstation **to utilize a print queue corresponding to one of the network printers**, such as printer 18.

[0064] In step S1102, network management device 20 receives the selection from the available print queues made by the user at workstation 12. Network management device 20 then searches print drivers 60 for the appropriate **print driver associated with the selected print queue**. In step S1104, Network management device 20 configures the client workstation by sending and installing the appropriate print driver from print drivers 60 on workstation 12 via network 10. Once the print driver is installed on workstation 12, in step S1105 network management device 20 establishes a connection between workstation 12 and print server 77, thereby allowing print jobs to be sent from workstation 12 to the selected print queue.

Lozano, Kim and Bernard are combinable because they are from the same field of endeavor of image processing; e.g., all three references disclose methods of connecting computers to peripherals such as printers by means of driver software.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the loaded print driver map the print output to a default print queue. The suggestion/motivation for doing so as disclosed by Bernard in the Summary of invention is because in a large enterprise, such as a large, physically distributed company with large numbers of printers, the system administrative tasks

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related to network printers can be overwhelming. In addition to the network administration tasks associated with the printers, other network problems can arise in relation to the printers. For example, a large number of printers on the network can generate a significant amount of network traffic between the print servers and the printers. Network traffic can also be generated during network administration of the printers if a network management tool is utilized which continuously polls for the presence of the printers and which obtains configuration and capability information from the printers. Such large amounts of network traffic can detract from the other communication between workstations, servers, and other network devices. Furthermore, a large number of printers in a network environment can consume a large number of corresponding IP addresses which may limit the total number of IP addresses available on the network for other devices.

Therefore, it would have been obvious to combine Kim's method of setting a port with Lozano's system of installing printers with Bernard's network management tool to obtain the invention as specified in order to provide additional printer support functionality as needed in accordance with a particular network environment.

Regarding Claim 16: (Cancelled)

Regarding Claim 17: (Original)

The computer-implemented method of claim 15 further comprising the step of exporting a function to the printer driver ([0042], lines 3-7).

Regarding Claim 18: (Original)

The computer-implemented method of claim 15, wherein the network address is an Internet Protocol address ([0059], lines 1-9).

Regarding Claim 19: (Original)

The computer-implemented method of claim 15, wherein the network address is a proprietary network protocol address ([0067], lines 1-18).

Regarding Claim 20: (Original)

The computer-implemented method of 19, wherein the proprietary network protocol is an Internetwork Packet Exchange protocol ([0067], lines 1-18).

Regarding Claim 21: (Previously Presented)

The computer-implemented method of claim 15, wherein the storing step further comprises storing a port name corresponding to the at least one selected accessible printer in an internal value table of the client machine([0052], lines 1-3).

Regarding Claim 22:

A computer-readable medium for a printer driver ([0038], line10) on a client machine ([0037], line 3) to communicate with a network printer ([0051], line 9) communicatively coupled to a print server ([0051], line 11), comprising:

means (the software code of the browser program that is described in ([0042], lines 1-3) adapted for searching a computer network (program step 200 in Figure 1) for at least one printer accessible by the client machine via a connection through an associated server ([0051], lines 4-17);

means (the software code of the browser program that is described in ([0042], lines 3-7) adapted for selecting at least one accessible printer located by an associated user (step 108 in Figure 1);

means adapted for retrieving identifier data associated with each selected printer ([0052], lines 1-8);

means (the software code of the browser program that is described in ([0051], lines 1-4) adapted for retrieving a network address corresponding to the at least one accessible printer selected by the user user (step 200 in Figure 1);

means (the software code of the browser program that is described in [0052], lines 1-4) adapted for storing the network address corresponding identifier data and a network path corresponding to the at least one selected accessible printer in an internal value table ([0046]) of the client machine (202 in Figure 2); and

means (the software code of the browser program that is described in [0044], lines 1-9; and [0051], lines 4-17) adapted for mapping a port in accordance with the value table(e.g., server based database described in [0080], lines 7-8), wherein the printer driver of the client machine is able to pass through an actual port associated therewith for bidirectional data communication ([0006], lines 8-9) with the at least one selected accessible printer (step 300 in Figure 1).

Lozano et al. does not disclose wherein a print driver is obtained and loaded from a print server to a client machine and mapping a port from the at least one selected network accessible printer to a port on a printer driver on the client machine.

Kim discloses wherein a print driver is obtained and loaded from a print server to a client machine and mapping a port from the at least one selected network accessible printer to a port on a printer driver on the client machine.

FIG. 2 is a block diagram illustrating a peripheral device driver to carry out the method of setting a port, and illustrates a peripheral device driver 40 to carry out the method of setting a port, which is described with reference to FIG. 1, and comprises a host 30 and a peripheral device 32.

The peripheral device driver 40 may be built in the host 30 and serves to drive the peripheral device 32. As described above, in a case where the method of setting a port is carried out in the peripheral device driver 40, the peripheral device driver 40 can carry out the method of setting the port when it monitors or drives the peripheral device 32 as described in [0026].

If it is determined that the port to interlink the host 30 with the peripheral device 32 exists in operation 12, operation 14 may be skipped and operation 16 may be carried out. In this case, the method of setting a port described with reference to FIG. 1 does not perform operation 14, and the method of processing a job does not perform operation 20. In other words, if it is determined that the port to physically interlink the host 30 with the peripheral device 32 exists in operation 12, the basic port is switched over to the port to physically interlink the host 30 with the peripheral device 32 in operation 16. Finally, the peripheral device driver 40 which exists in the host 30 checks all ports to search for any ports to physically interlink the host 30 with the peripheral device 32 if it is determined that the host 30 is not interlinked with the peripheral device 32 through the basic port. Here, if an interlinked port to physically interlink the host 30 with the peripheral device 32 exists, the basic port is automatically switched over to the interlinked port as described in [0031].

Lozano et al. & Kim are combinable because they are from the same field of endeavor of image processing; e.g., both references disclose methods of connecting computers to peripherals such as printers by means of driver software.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to map a port from the at least one selected accessible printer to a port on a printer driver on the client machine.

The suggestion/motivation for doing so would have been so that the user does not have to manually search and connect a port before transmitting the print data to the printer. The basic port can be switched over to the interlinked port automatically or by a user's permission, or without a user's permission. The user does not need to physically, or through a program, change the basic port.

Therefore, it would have been obvious to combine Kim's method of setting a port with Lozano's system of installing printers to obtain the invention as specified in Claim 22 because the user can conveniently change the basic port into another port, and even users with little knowledge of changing of the basic port can also switch another port without errors. Further, burdensome and unnecessary after-sale services related to the changes of ports for makers of peripheral devices and hosts can be avoided as disclosed by Kim in [0006].

Lozano and Kim do not disclose wherein the loaded print driver maps print output to a default print queue.

Bernard discloses **wherein a downloaded printer driver maps automatically to a queue, not to a port.**

[0063] FIG. 11 depicts a process for configuring a client workstation **to utilize a print queue corresponding to one of the network printers**, such as printer 18.

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[0064] In step S1102, network management device 20 receives the selection from the available print queues made by the user at workstation 12. Network management device 20 then searches print drivers 60 for the appropriate **print driver associated with the selected print queue**. In step S1104, Network management device 20 configures the client workstation by sending and installing the appropriate print driver from print drivers 60 on workstation 12 via network 10. Once the print driver is installed on workstation 12, in step S1105 network management device 20 establishes a connection between workstation 12 and print server 77, thereby allowing print jobs to be sent from workstation 12 to the selected print queue.

Lozano, Kim and Bernard are combinable because they are from the same field of endeavor of image processing; e.g., all three references disclose methods of connecting computers to peripherals such as printers by means of driver software.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the loaded print driver map the print output to a default print queue. The suggestion/motivation for doing so as disclosed by Bernard in the Summary of invention is because in a large enterprise, such as a large, physically distributed company with large numbers of printers, the system administrative tasks related to network printers can be overwhelming. In addition to the network administration tasks associated with the printers, other network problems can arise in relation to the printers. For example, a large number of printers on the network can generate a significant amount of network traffic between the print servers and the printers. Network traffic can also be generated during network administration of the printers if a network management tool is utilized which continuously polls for the presence of the printers and which obtains configuration and capability information from the printers. Such large amounts of network traffic can detract from the other communication between workstations, servers, and other network devices.

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Furthermore, a large number of printers in a network environment can consume a large number of corresponding IP addresses which may limit the total number of IP addresses available on the network for other devices.

Therefore, it would have been obvious to combine Kim's method of setting a port with Lozano's system of installing printers with Bernard's network management tool to obtain the invention as specified in order to provide additional printer support functionality as needed in accordance with a particular network environment.

Regarding Claim 23: (Cancelled)

Regarding Claim 24: (Original)

The computer-readable medium of claim 22, further comprising means adapted for exporting a function to the printer driver ([0042], lines 3-7).

Regarding Claim 25: (Original)

The computer-readable medium of claim 22, wherein the network address is an Internet Protocol address ([0059], lines 1-9).

Regarding Claim 26: (Original)

The computer-readable medium of claim 22, wherein the network address is a proprietary network protocol address ([0067], lines 1-18).

Regarding Claim 27: (Previously Presented)

The computer-readable medium of 26, wherein the proprietary network protocol is an Internet Packet Exchange protocol ([0067], lines 1-18).

Regarding Claim 28: (Previously Presented)

The computer-readable medium of claim 22, further comprising means adapted for storing a port name corresponding to the at least one selected accessible printer in an internal value table of the client machine ([0052], lines 1-3).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Schacht et al. (US 6,959,437) teaches receiving a request addressed to a first IP address from a network-connected computer workstation; supplying a web page from an embedded web server; in response to accessing the web server, causing printer driver software to be supplied to the computer workstation; receiving documents from the computer workstation in accordance with the supplied printer driver software; and, processing the received documents.

Examiner Notes

6. The Examiner cites particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified

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citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully considers the references in its entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or as disclosed by the Examiner.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neil R. McLean whose telephone number is (571)270-

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1679. The examiner can normally be reached on Monday through Friday 7:30AM-4:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571.272.7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Neil R. McLean/
Examiner, Art Unit 2625

/David K Moore/
Supervisory Patent Examiner, Art Unit 2625